SUPPORT FOR THE AMENDMENTS

Claim 9 has been amended to recite that the bacteria produce a bacterial cellulose comprising ribbon-shaped microfibrils having a width of 160 to 1000 nm. This amendment is supported by the specification at page 2, last three lines. Claim 19 has been canceled. No new matter is believed to have been added to this application by these amendments.

REMARKS

Claims 1-18 are pending. Favorable reconsideration is respectfully requested.

The present invention relates to a method of producing a bacterial cellulose, comprising culturing cellulose-producing bacteria which produce the bacterial cellulose extracelluarly in a culture medium containing a cell division inhibitor, where the bacteria produce a bacterial cellulose comprising ribbon-shaped microfibrils having a width of 160 to 1000 nm (see Claim 1).

The rejection of Claims 9, 15, and 17 under 35 USC 102(b) over Townsley is respectfully traversed. This patent fails to disclose the claimed method.

Townsley describes a method for producing cellulose fibers which involves culturing *Acetobacterium xylinum* in a growing medium (see the Abstract). The reference states that "an antibiotic such as sorbic acid may also be required to control the yeast and mold" (see column 2, lines 4-5). Townsley fails to describe the growth medium contains a cell division inhibitor. The reference also fails to describe the width of the cellulose fibers produced by the method described therein.

In contrast, the claimed method specifies (1) that the culture medium contains a cell division inhibitor and (2) that the bacterial cellulose microfibrils have a width of 160 to 1000 nm. Townsley fails to describe (1) or (2).

The reference states that an "antibiotic," e.g., sorbic acid, may be added to the growth medium to control the yeast and mold. Clearly, Townsley is not teaching the use of all antibiotics, since most antibiotics would kill the bacteria used to produce the bacterial cellulose.

A cell division inhibitor is a microbiocidal agent. Sorbic acid, the only antibiotic exemplified by Townsley, is not a cell division inhibitor. As shown by the entry from the Merck Index for sorbic acid (copy enclosed), this compound inhibits mold and yeast by fungistatic action. As shown by Biseibutsugaku Jiten (Dictionary of Microbiology), page 567, Gihodo Shuppan, Tyoko, 1989, a copy of which is enclosed along with a partial English translation, fungistatic action is to inhibit microbial growth reversibly, and when the fungistatic agent is removed or inactivated, the microorganism grows again. Also enclosed is a copy of Seikagaku Jiten (Dictionary of Biochemistry), first edition, page 514, Tykyo Kagaku Dojin, 1984, along with a partial English translation thereof, which (1) describes the general properties of cell division inhibitors and (2) does not list sorbic acid as a cell division inhibitor.

In addition, Townsley does not describe the width of the cellulose fibers produced by the method described therein. Accordingly, the reference fails to suggest producing a bacterial cellulose comprising ribbon-shaped microfibrils having a width of 160 to 1000 nm.

Townsley fails to disclose that the culture medium contains a cell division inhibitor or that the bacterial cellulose microfibrils have a width of 160 to 1000 nm. Therefore, this reference fails to anticipate Claims 9-18. Withdrawal of this ground of rejection is respectfully requested.

The rejection of Claims 9-18 under 35 USC 103(a) over Iguchi and Johnson in view of Hestrin et al. and Townsley is respectfully traversed. These references fail to suggest the claimed method.

As recognized by the Examiner, both Iguchi and Johnson fail to disclose using a cell division inhibitor in the culture medium. Moreover, a cell division inhibitor is not used for the for the preparation of resting or static cells, such as those described by Johnson and Hestrin et al. In order to inhibit the growth of cells, thereby producing resting cells, the cell culture medium lacks certain nutrients, e.g., a nitrogen source and yeast extract, which are necessary for cell growth. Accordingly, one would not be motivated to add a cell division inhibitor to the culture medium based on the description of using resting or static cells in Johnson or Hestrin et al., since such cells are generally prepared bu omitting nutrients from the culture medium. Moreover, Townsley fails to disclose that the culture medium contains a cell division inhibitor, as discussed above.

Based on the foregoing, Iguchi and Johnson in view of Hestrin et al. and Townsley fail to suggest producing a bacterial cellulose in which a cell division inhibitor is added to the culture medium. Accordingly, Claims 9-18 are not obvious over these references. Withdrawal of this ground of rejection is respectfully requested.

The rejections of Claim 19 set forth at page 5 of the Office Action dated February 8, 2001 are obviated by the cancellation of this claim. Accordingly, withdrawal of these grounds of rejection is respectfully requested.

The obviousness-type double patenting rejection over Applicants' U.S. patent No. 6,060,289 is obviated by the terminal disclaimer submitted herewith. Withdrawal of this ground of rejection is respectfully requested.

Applicants submit that the application is now in condition for examination on the merits. Early notice of such action is earnestly solicited.

Respectfully submitted,

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IN THE CLAIMS

Claim 19 deleted.

9. (Amended) A method of producing a bacterial cellulose, comprising:

culturing cellulose-producing bacteria which produce the bacterial cellulose extracelluarly in a culture medium containing a cell division inhibitor, wherein the bacteria produce a bacterial cellulose comprising ribbon-shaped microfibrils having a width of 160 to 1000 nm.